ARTS IN EDUCATION

The Use of Drama and Narrative: A Study of Outcomes

Principal Investigators
E. N. WRIGHT
R. E. YOUNG

This research project was funded under the Ministry of Education, Ontario.
It reflects the views of the authors and not necessarily those of the Ministry.

The Honourable Sean Conway, Minister

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ABSTRACT

Two interventions were studied in this project. A drama program was presented by three visiting drama consultants in five classes, while a daily story-reading period was presented by the teacher in three classes and by the co-investigator in another three classes. The interventions lasted for twelve weeks. The daily story session was twenty to thirty minutes long. There were eighteen drama sessions for each of the five classes, and each session was about ninety minutes long, so that the total time was similar for both interventions. The purpose of the study was to see whether these interventions had any academic consequences. The assessment procedures selected provided hard data that nevertheless reflected the "humanistic" thrust of the interventions.

Picture stories for young children were used in the study. The children told the story they saw and later recalled it to a second person. Then they were presented with another story with the pictures in scrambled order. These were rearranged by the child into a story that was told and subsequently recalled. The scoring procedures looked at three kinds of statements: common ones, uncommon ones, and spurious ones. Narrative conventions also were identified. The Peabody Picture Vocabulary Test was used to look at changes in vocabulary. The project was carried out in Grade 1 classes in some of the Toronto Board of Education's inner-city schools.

The results from the Peabody Picture Vocabulary Test showed that, although all of the children gained in vocabulary, the gain was significant for the two groups receiving the intervention but not for the control group. The rearrangement of the scrambled stories improved significantly only for the group who had stories read to them. The story group also improved on most other measures, while the drama group improved on a few of them, and the control group improved on none.

Although all the drama consultants presented their programs within the guidelines, they varied considerably in their strategies and emphasis. The scores of the children were examined as a function of these variations in treatment. Most gains occurred in the students taught by one of the consultants. This is explained by the fact that her approach was closer to the activity required by the assessment procedures than the approaches of the other two consultants.

Analyses of the group with the narrative program compared the visitor with the classroom teachers. There were differences favouring the visitor. Further analyses of the classrooms with the narrative program suggest that degree of "inner-citiness" was an important and confounding variable. Children from the most "inner-city" schools seemed the most likely to make gains.

In conclusion, the report suggests that the daily use of stories or the use of drama, besides having intrinsic value, contributes to academic achievement. This increase was relatively modest and demonstrable when there was a direct link between the form of assessment and the existence of similar program elements. Moreover, it seems that there is a greater chance for demonstrable benefits in academic achievement with story-telling than drama and that the chances for demonstrable benefits are greater with the more "inner-city" children.

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The Authors

INTRODUCTION

In 1981, the Toronto Board of Education established the Work Group on the Performing Arts. The Work Group's report, adopted by the Board, included a recommendation that there be an annual "humanistic research project into the value of the Arts in Education". This study emerged from that request.

In its opening section dealing with the importance of the Arts, the report of the Work Group discussed the difficulty of demonstrating the value of the Arts. Because of this difficulty there has been rhetorical support of the Arts with little support in terms of money or staff. Numerous researchers who have studied children, point to the involvement of the total being in the process of development, but the Arts themselves are not usually identified clearly as one of the components of this process. Learning Through the Arts (Courtney and Park 1980) presented data from teachers who had reported on the value of Arts programs for their children; however, teachers' opinions alone are not convincing to the sceptic.

"Humanistic" is not defined in the Work Group's report. It is assumed that, in part, the use of this term represents a statement against "mechanistic" programs and evaluations that deal only with quantitative matters. In this study, the interventions selected and the assessments proposed represent an attempt to build a bridge so that it will be possible to talk about "the value" of Arts in relation to the child's total school achievement.

Selection of Interventions

The first area that the Work Group addressed was "Drama and the Curriculum". The Work Group was particularly concerned that, while music, visual arts, and physical and health education have had a clearly defined place in the curriculum and have had consultative support, the place of drama has been poorly defined and had less support. Drama, as it is presented to young people, is closely linked to the use of narratives (i.e., storytelling and story reading), one difference being that drama provides an opportunity for more active participation in the story by the children. Logically, the investigation of the consequences of these two curriculum interventions seemed like a good place to begin a series of research studies. One can argue that there should be a relationship between such interventions and the development of literacy in young children.

Selection of Schools

The work of Young (1983), Saterfiel and his colleagues (1982), and the extensive literature on inner-city children indicates that children who come from less affluent neighbourhoods are less likely to have experience with books, stories, and other related literacy materials than those from more affluent homes. The research also suggests that children who lack these experiences are less likely to do well in reading and related skill areas. For these reasons, it was considered appropriate to initiate this project in "downtown" schools rather than "uptown" schools. Grade 1 was selected as the interventions would be provided at the time when the children were beginning to learn to read.

Selection of Assessment Procedures

The intervention was to be related to school "achievement" and the assessment procedures were to have a "humanistic" orientation. The drama and narrative programs were seen as a way of providing a greater variety of language in a language experience program. An implicit goal was that the child would develop improved cognitive structures to deal with and understand such things as a story's schema (i.e., its outline or essential form). Results from a number of studies indicate that university students and middle-class children use their knowledge of the story schema in comprehending, encoding, recalling, and constructing stories (e.g., Kintsch and van Dijk 1975, 1978; Mandler and Johnson 1977; Poulsen et al. 1979).

To provide an objective measure that might demonstrate some elements of the development of literacy within the context of the program, procedures that had just been developed by one of the authors (Young 1983) were chosen. They seemed to provide an ideal technique as they tapped the child's ability to understand, organize, and recall a story's schema. Although the measures are objective, they reflect the goals of a language experience program much better than do traditional achievement tests. The Peabody Picture Vocabulary Test (PPVT) also was administered to provide a summary measure of the children's language development.

The following two chapters provide more information about the background and rationale and more details about the program and procedures.

THEORETICAL AND EMPIRICAL BACKGROUND AND RATIONALE

The fact that children of parents with low incomes, little formal education, and unskilled or no jobs are less successful in school than children of parents with high incomes, university education, and professional and managerial jobs, is well known (e.g., Caldwell 1971; Coleman 1966; Riessman 1962; Zigler et al. 1982). A continuing challenge for educators and psychologists lies in explaining and finding methods to overcome the inferior school performance of many of the children with lower socio-economic backgrounds.

Various studies have demonstrated that, particularly on traditional measures of language development and language-related skills such as reading and writing, middle-class children are more advanced than lower-class children (e.g., Bereiter and Engelmann 1966; Bernstein 1970a, 1970b; Caldwell 1971; Cazden 1966; Deutsch 1967; Hunt 1969; Riessman 1962; Williams 1970).

In attempting to identify environmental differences that might account for these results, one consistent factor has emerged: the availability of books. Lower-class children generally grow up in homes where there is little reading material of any sort (e.g., Ausubel 1967; Burks 1928; Coleman 1966; Deutsch 1962, 1967a, 1967b; Heath 1982a, 1982b; Milner 1951; Saterfiel et al. 1982; Skodak and Skeels 1949). Middle-class children, in contrast, live in homes in which a wide variety of reading materials (including children's books) usually is found. Also, during the preschool years, the middle-class child typically has many stories read to him or her.

Recent research in cognitive psychology and linguistics is looking at the structure of the simple story to delineate the cognitive processes used to understand and remember it. A simple story, for example, is not remembered as a string of words, but rather as a set of ideas that fits into a cognitive structure called a story schema or story grammar. Simple stories have a definite structure, and a regular set of constituents including a setting, a protagonist, a plot, and one or more episodes. An episode consists of an exposition, a complication, and a resolution. The constituents that comprise the story are combined in a regular or schematic way so that the story becomes a coherent, memorable whole (e.g., Bower 1978; Kintsch and van Dijk 1975, 1978; Mandler and Johnson 1977; Poulsen et al. 1979; Thorndyke 1977; Young 1983). Results from a number of studies (cf. Young 1983 for a comprehensive review of the studies) indicate that middle-class adults and children find it far easier to understand and remember stories that conform to the schema than unschematic stories and other forms of prose such as that found in textbooks. In fact, these studies show that when middle-class adults and children are asked to recall unschematic stories, they add

new information and distort the actual input such that the recalled story conforms more closely to a schematic story than to the original story.

To further examine these phenomena, Young (1983) studied four-year-old and six-year-old children from lower- and middle-class families. Each child participated in two story-telling sessions. In each session, a child looked at two picture stories, one in a normal order and one in a scrambled order. All four stories were by Mercer Mayer and had no narrative. The use of the scrambled order required the child to impose a story schema on the pictures and, thus, to demonstrate knowledge of that schema.

Descriptions by university students provided the reference point for the scoring procedures that were developed.

The results demonstrated that:

(1) Middle-class four- and six-year-old children describe, understand, and remember simple stories in a way qualitatively different than lower-class children of the same ages. The middle-class children's performance on such tasks is far more similar to that of adults than to that of the lower-class children;

(2) Middle-class four- and six-year-old children have acquired more knowledge about the traditional structure of simple stories, the story schema, than their lower-class age-peers, and use it to guide their reconstructions of scrambled stories.

As a further part of the study, small groups of four-year-old inner-city children were exposed extensively to well-structured traditional stories. As a result of this intervention, these children (in contrast to those without it):

(1) acquired knowledge about story schema;

(2) used this knowledge to guide their comprehension and recall of stories, and to guide their reconstruction of scrambled stories. (In fact, these four-year-old inner-city children performed at a level comparable to the six-year-old middle-class children.);

(3) made significant gains on a measure of verbal ability.

These findings encouraged a study within a regular classroom setting. Furthermore, it seemed important to look at interventions in a Grade 1 setting when the children's rate of development and the process of acquisition of the relevant aspects of the language would be somewhat less rapid than that of four-year-old children (e.g., Bloom 1964; Hunt 1969).

Extending the interventions to include drama had its impetus from the Work Group. Although there is little literature on the effects of drama, both the significance of dramatic play in the cognitive development of the young child (Vygotsky 1976) and the suggestion that story-based dramas can enhance children's understanding of a story and their language development (e.g., Ontario 1984; Saltz, Dixon, and Johnson 1977; Smilansky 1968; Smith and Syddall 1978) supported the inclusion of this intervention. Furthermore, the closeness of many elements of drama and story telling/reading made them a natural pair for this study, which is looking at Arts in education and achievement.

METHOD

The classes involved in the study were drawn from the Toronto Board of Education's inner-city schools. Grade 1 classes were assigned to the drama group, the narrative group (hereafter called the story group), or the no-treatment group, which continued with its regular program. (A few split Grade 1/2 classes had to be included but only the Grade 1 children were included in the data collection.) Before the program began, all the children participated in a pre-test session; after the program was completed, the post-test was administered.

The approval for the project funding was not received until the fall. Arranging the programs, soliciting school and teacher participation, selecting and buying books, and selecting and hiring staff all took time. Consequently, the pre-testing began in January 1983. The three drama consultants provided the program for the classes that received that treatment. The narrative treatment was provided by both the classroom teachers (three classes) and by one of the co-investigators (three classes). Details are provided in the following sections.

Subjects

There were twenty-one classrooms drawn from nine schools that participated in the study. The nine schools that were asked to participate were designated as inner-city schools by the Toronto Board of Education. This designation was partly based on the fact that many of the children came from economically deprived families. As the literature (e.g., Ausubel 1967; Burks 1928; Coleman 1966; Deutsch 1962, 1964, 1967a, 1967b; Heath 1982a, 1982b; Milner 1951; Saterfiel et al. 1982; Skodak and Skeels 1949) indicates that children from economically deprived families have little experience with stories in the home, children from these schools were considered to be most in need of additional experience with stories and most likely to benefit from that experience.

The initial sample included 389 children. Because of subject attrition caused by school transfers (N=30), and other problems, including mechanical failures of the tape recorders (N=34), there were 325 children for whom complete data were available. There were 88 children in the drama group, 99 in the story group, and 138 in the no-treatment group. Due to the cost, both in money and time, of transcribing the tapes, only 240 children were included in the final sample. Selection of these 240 children from the 325 who had completed the study

was random with the restrictions that there be an equal number of children in each treatment group and that the sex and native language compositions of the groups be comparable. In each group, 40 children were native English speakers and 40 learned English as a second language. There were 19 different first languages represented by the 120 non-native English speakers and, within each treatment group, the non-native English speakers were a heterogeneous group. There were 39 males and 41 females in the drama group, 48 males and 32 females in the no-treatment group, and 40 males and 40 females in the story group.

Given the nature of the drama and story interventions, the assignment of classrooms to the drama, story, or no-treatment groups could not be random as teacher co-operation was required. When schools were approached, the principal and teacher(s) were informed about the project and the nature of the three groups. In the four schools that had three Grade 1 classrooms, an attempt was made to have a drama, story, and no-treatment group within each school. However, principals' and teachers' preferences were such that this was possible in only two schools. Thus, the assignment of classrooms to the drama, story, and no-treatment groups was determined in part by the preferences of the schools and had a "first come, first served" flavour. Table 1 shows the distribution of drama, story, and no-treatment groups across the nine schools. The 1982 rating of each school for its degree of "inner-citiness", as determined by a weighting of parental income, type of housing, cultural background, number of single parents, number of families with both parents working, and mobility (Bates, Rutledge, and McKeown 1981), also is noted in table 1. Schools with a IA rating have the highest level of "inner-citiness" on this rating schema while the schools with a rating above III are not "inner-city". The assignment of drama consultants to the schools and the story reader (i.e., teacher or visitor) also is noted in table 1.

TABLE 1

Participating Schools

School	Class	Treatment	1982 Inner City Classification
One	A	drama (consultant C)	II
	B	story (teacher)	
	C	no treatment	
	D	no treatment	
Two	E	drama (consultant B)	II
	F	drama (consultant B)	
Three	G	story (visitor)	IA
	H	no treatment	
	I	no treatment	
Four	J	story (visitor)	IA
	K	story (visitor)	
	L	no treatment	
Five	M	drama (consultant C)	II
	N	story (teacher)	(IB previous year)
	O	no treatment	
Six	P	no treatment	IB (IA previous year)
Seven	Q	no treatment	IA
	R	no treatment	
Eight	S	story (teacher)	IB
Nine	T	drama (consultant A)	IB
	U	no treatment	

NOTE: IA represents greatest degree of "inner-citiness" followed by IB, II, and III, with IV not being considered inner-city.

Pre-treatment Procedures and Pre-testing

There were three testing teams, each composed of two individuals, who, during both the pre- and post-treatment phases of the study, collected data from the children. (While four members of the testing teams were present for both the pre- and post-treatment phases, two testers found other employment after the pre-treatment phase of the study and were replaced.) A three-day training session, held prior to the collection of the pre-treatment data, helped to lessen differences between the testing teams. A one-day training session was held for the new staff prior to the post-treatment testing; in addition, each new staff member worked with an experienced partner.

The initial phase of the procedure entailed the testers familiarizing themselves with the children in each of the classrooms. While it is difficult to specify the components of this activity, it was considered important for these young children. Although the actual length of the familiarization procedure was determined by the testers' judgements of when the children were comfortable enough to participate in the study, one day was typical before the pre-test and half a day before the post-test.

The picture sequences used to elicit stories from the children were those that Young (1983) constructed from commercial children's books illustrated by Mercer Mayer. The four illustrated stories were as follows: A Boy, A Dog, A Frog and A Friend (Mayer 1971), Frog on His Own (Mayer 1973), Frog, Where Are You? (Mayer 1969), and One Frog Too Many (Mayer and Mayer 1975). None of these stories have accompanying narrative; the pictures alone tell the stories. Given that a frog is a central character in all of the stories and a turtle in two of the stories, it was necessary to make certain that all children were familiar with frogs and turtles. Consequently, live frogs were taken to each classroom. The children spent considerable time observing, discussing, and caring for their amphibious visitors. Interest in subsequently seeing the stories with the frogs was high. Customs' regulations concerning salmonella-bearing American turtles and the vagaries of Canadian winters made it impossible to take live turtles to the school. Consequently, the testers had plastic wind-up turtles that each child played with and discussed in a session prior to testing. During that time, the testers ensured that the children could label the turtles as such.

Mayer's original stories were multi-episode and included an average of twenty-five pictures, each one filling a full page. The stories were shortened to twelve pictures (see Young 1983 for this procedure). The individual pictures were glued to bristol board and laminated so they could be easily handled. A set of twelve was used either in its normal story order or in a scrambled order. The scrambled order which Young devised was used in all

cases: 2, 9, 3, 1, 6, 10, 8, 11, 7, 4, 12, and 5. This order is such that no adjacent pairs are in order. In two stories, three of the eleven adjacent pairs are pictures from the same narrative category (e.g., exposition) while only two of the eleven pairs are thus related in the other stories.

The child was asked to describe and then to recall a story that was presented in its normal order. The child was next asked to rearrange, describe, and then to recall a story that was presented in the scrambled order. In the post-treatment phase, the child repeated the procedure but with the other two stories. The assignment of the four stories to normal and scrambled positions was counterbalanced so that each story appeared equally often in positions one through four. A story in the normal order was always presented first and was followed by the scrambled story for both pre- and post-treatments.

The procedures and instructions were those that were developed and described by Young (1983). In the case of a normal story, the child first looked at the pictures, without describing them, in order to form an impression of the story. Then the child was asked to describe each picture to the tester. After the child described the pictures, they were hidden and the second tester, the "listener", was invited into the room. The listener asked the child to tell her the story without the pictures. In the case of the scrambled story, the tester placed the twelve pictures on a flat surface and asked the child to rearrange the "mixed-up" pictures so they told a good story. After the child rearranged the pictures, the procedure was identical to that used with the normal stories. The child described the "story" as she or he rearranged it, and then recalled it to the listener. Prior work had shown that the second adult is necessary; if a child is asked to retell the story to the same adult the child tends to summarize it rather than retelling all he or she can remember.

The children also were tested on the Peabody Picture Vocabulary Test (PPVT) (Dunn 1959) before the treatments began. Half of the children in each class were tested on Form A and half on Form B. After the treatment, each child was tested on the alternate form. Several cautions need to be mentioned. The PPVT was not considered a suitable index of ability but is a useful predictor of academic achievement. The PPVT standardization sample included only native English-speaking children from Nashville, Tennessee (Dunn 1959) and, thus, the norms cannot be considered as generally applicable. Moreover, the test taps only receptive vocabulary and, hence, the construct validity of the test as a measure of intellectual ability is weak (Piers 1965). Finally, the test has a long history of underestimating the abilities of children from lower-class backgrounds especially on the first testing (e.g., Applebaum and Tuma 1977; Goh and Lund 1970; Seitz et al. 1975; Weinberg et al. 1974; Zigler, Abelson, and Seitz 1973; Zigler et al. 1982). Consequently, PPVT scores should never serve as the basis

for any clinical judgements about intelligence in lower-class children. The above notwithstanding, if all children receive the same treatment prior to testing (Seitz et al. 1975; Zigler et al. 1973, 1982), the PPVT does have a history of being a useful test to adopt as a control measure (cf. Piers 1965), and it has been used successfully in a number of intervention studies to provide an index of change (e.g., Zigler et al. 1973, 1982). Moreover, PPVT scores are positively correlated with scores on scholastic achievement tests.

Treatment

The treatment period in the study was twelve weeks long. During that time, children in the story group had an extra story read to them every day. For half of the children in the story group the stories were read by their classroom teacher (three classes). An outsider (the co-investigator) visited another three classrooms every day and read a story to the children in those classes. Children in the drama group were visited by a drama consultant eighteen separate times spaced over the twelve-week period. Three drama consultants provided the drama program. One of them was responsible for only one classroom, while the remaining two each visited two classrooms during the twelve-week period. During a drama session, the drama consultant read or told a story and then had the children engage in dramatic activities related to the story. The time spent reading the stories to the story group averaged twenty to thirty minutes per day while the drama sessions usually were ninety minutes long; the story and drama interventions respectively entailed approximately twenty-five and twenty-seven hours over twelve weeks. During the twelve-week intervention period, the children in the no-treatment group did not participate in any drama or story programs beyond those that were part of their regular school program.

The Story Treatment

Children in the story group heard sixty stories. In selecting stories for the study, it seemed appropriate to concentrate on classic children's stories such as Goldilocks and the Three Bears, The Three Billy Goats Gruff, The Three Little Pigs, and The Gingerbread Man. They are well-structured from a schematic point of view, and undoubtedly are known by most middle-class children. Stories that had been awarded the Caldecott medal (see Hildebrand 1971), and that had received other awards, such as the Australian Picture Book

of the Year Award, also were selected. When possible, stories available in the "Big Book" format (cf. Holdaway 1979) also were included. A list of the stories used can be found in Appendix A.

Since individual teachers vary in their responses to particular books, each teacher received fourteen books every two weeks and was able to choose ten of them to read during that period. The co-investigator also chose from the same fourteen books during each two-week period.

The Drama Treatment

The drama consultants were concerned with presenting a story to the children and encouraging them to act it out and/or to act out analogous situations. Each drama consultant read the story to the classroom before, during, or after the drama; the timing of the story reading varied with the nature of the lesson. Although an attempt was made to keep the drama sessions similar, individual differences between the consultants were present and should be noted. One of the consultants (consultant A) was concerned primarily with following the story-line in each book and generally had the children role-play the story in small groups. A second consultant (consultant B) tended to focus primarily on a scene (or scenes) within a story and have the children explore it (them) further and elaborate on it (them) in role-playing situations involving pairs. A third consultant (consultant C) favoured using the story as a "jumping-off point" from which the children would begin, as a class, to extend the story, to create new episodes for it, and/or to create totally new, but thematically-related stories. In addition to assuming the roles of teacher, narrator, and coach during the drama, all of the consultants also assumed roles within the drama at times. Moreover, all of the consultants introduced mime, body awareness exercises, and statues to their classrooms.

Post-treatment Procedures and Post-testing

In the first post-treatment session, each child described a picture story that was presented in normal order and then was asked to recall it for the second adult as in the pre-treatment session. Then the child was presented with a scrambled set of pictures and asked to rearrange them, and then to describe and recall them. During a second session, each child was tested on the alternate form of the PPVT to the one that had been used on the pre-test.

Scoring

The scoring system for the stories had been developed on the basis of several studies involving some eighty college students (Young 1983).

The testers transcribed the tape-recorded protocols using the procedures outlined by Young (see Appendix B). The protocols were scored by the co-investigator and the tester who had previously worked with the scoring system. The transcripts were analysed propositionally, that is, in terms of the content of each simple sentence (cf. Young 1983; Kintsch 1974, for further details). Both the transcription and scoring manuals (Young 1983) are reproduced in Appendix B.

Each statement or proposition was classified twice:

(1) Each statement was labelled as either a core statement, an extra statement, or a spurious statement. Core statements were determined by adults' descriptions of normal stories. A core statement is a statement that at least fifty per cent of the adults in Young's (1983) sample used, and is considered central to the gist of the story. An extra statement consists of less essential but correct detail. A spurious statement is either a far-fetched or totally false statement about a picture.

(2) In the second scoring classification, story statements and narrative conventions were scored. Story statements cannot be made on the basis of seeing any one picture, but rather depend on an understanding of the story, of the relationships between pictures. Story statements also can be either core, extra, or spurious statements. Narrative conventions include setting statements (e.g., "Once upon a time..."), temporal connectives (e.g., "and then", "finally", "suddenly", and so on), and resolution statements (e.g., "And they lived happily ever after").

A sample story, Frog on His Own (Mayer 1973), can be seen in figure 1. The assignment of pictures to the narrative categories is illustrated in figure 2 for that story. Frog on His Own consists of two episodes, with the second episode being embedded into the first. The episodes are distinguished by a change in actors. As can be seen in figure 1, picture 1

functions as the exposition of episode 1, introducing a boy walking with his dog, frog, and turtle to the park. The complication of the episode begins in the next picture when the frog leaps out of the pail. In picture 3, it is apparent that the boy has not detected its absence. Picture 4 not only continues the first episode but it also begins the second episode when several new characters are introduced, including a mother, a baby, and a cat. The complication of the second episode begins in picture 5 when the frog leaps into the carriage. The complication continues in pictures 6 through 10. Then, in picture 11, the runaway frog's adventures in the embedded episode are resolved. Picture 11 also is the beginning of the resolution for episode 1 as the frog is reunited with the boy, the dog, and the turtle. Picture 12 is the continuation of the resolution for episode 1: the frog is reunited with its old friends and they leave the park together. A Boy, A Dog, A Frog and A Friend and One Frog Too Many have the same narrative structure as Frog on His Own. Frog, Where Are You? consists of only one episode.

A statement such as "The frog leaped out of the pail", occurring as a response to picture 2 of Frog on His Own, would be scored as a core statement because fifty per cent of the adults made it. The statement "The frog's old friends returned", in response to picture 11 of Frog on His Own, would be scored as a core statement because fifty per cent of the adults made it, and a core story statement because it indicates an understanding of the story sequence.

Inter-rater reliabilities for the core-extra-spurious classification as well as for the story statement classification were not calculated. As the two scorers were the same individuals who scored Young's (1983) protocols, it is reasonable to assume that the reliability of their scoring continued at the high levels (all>.94) Young (1983) reported.

FIGURE 1

The Frog on His Own (Mayer 1973) Story

FIGURE 2

Narrative Structure of Frog on His Own (Mayer 1973)

Episode 1:

Exposition 1:	Boy walking to park with dog, frog, and turtle (picture 1)
Complication 1:	Frog jumps away without boy noticing (pictures 2 and 3)

Episode 2:

Exposition 2:	Frog sees mother, baby buggy, and cat (picture 4)
Complication 2:	Frog jumps in buggy and difficulties ensue (pictures 5-10)
Resolution 2:	Frog is rescued from cat (picture 11)

Resolution 1:	Frog is rescued by its old friends and, thus, reunited with them (pictures 11 and 12)

RESULTS

Preliminary analyses indicated that there were no differences among the treatment groups at the time of the pre-testing. Consequently, the analysis of variance rather than the analysis of covariance is an appropriate technique as the pre- and post-test data can be considered together. For the majority of the dependent measures, the data were analysed using 3 x 2 x 2 split-plot analysis of variance (cf. Winer 1971). In these analyses, treatment group (i.e., drama versus story versus no-treatment group) was the between-subject factor, and story order (i.e., normal versus scrambled) and time (i.e., pre-test versus post-test) were the within-subject factors. The major a priori question was "Are changes over time the same in all three treatment groups?" To answer this question, the individual comparisons involved in the treatment group x time interaction (2,237 df) were analysed by orthogonal contrasts between treatment means (Winer 1971).

The error term for these contrasts entails pooling what are often heterogeneous sources of variance (i.e., between- and within-subject error) (Cochran and Cox 1957; Kirk 1968; Winer 1971). Consequently, the *t* or *F* ratios constructed for these tests are biased (Cochran and Cox 1957; Kirk 1968; Winer 1971). Several procedures are available for correcting this bias so that the significance of the *F* or *t* ratio can be tested against the appropriate statistical distribution. If Cochran and Cox's (1957) conservative *t* test is adopted, the *t* value is not affected in the contrasts of interest in this study. However, if the Satterthwaite approximation to the *F* test (Winer 1971) is used, the degrees of freedom for the denominator of that test range between 237 and 574 for the majority of the analyses in this study, depending on the ratio of the between-subject error to the within-subject error (Winer 1971). However, as Winer (1971) indicates, the bias produced by not correcting the degrees of freedom when they are large (>30) is minimal. Nevertheless, in all orthogonal contrasts reported below, the lower, most conservative limit for the degrees of freedom (i.e., 237 df) was adopted. A .05 level of significance was adopted for all statistical tests.

Initially, the analyses of the entire group will be discussed. The results for each scoring classification will be presented separately. First, the PPVT and the rearrangement data will be described, and then the description and recall data for each scoring classification will be discussed. Differences as a function of drama consultant and as a function of story reader and inner-citiness also will be considered.

Peabody Picture Vocabulary Test

As noted, 120 of the children were acquiring English as a second language so the norms of the PPVT, which were developed on English-speaking children, do not provide an accurate description of their language abilities. Nevertheless, percentile scores were used solely because they provide a balance for age variation, and a way of "matching" results from the alternate forms. Moreover, it should be noted that the heterogeneity of the children's languages inflated the variability of the PPVT scores.

Table 2 reports the data. An analysis of variance shows a significant increase in scores over time, F (1,237)=13.40; however, orthogonal contrasts show that only the story group and the drama group changed significantly over time, F (1,237)=4.58. The no-treatment group did not show a significant change, F (1,237)<1.

Rearrangement of the Scrambled "Stories"

The children were asked to rearrange the scrambled stories prior to describing and recalling them. If the children rearranged the pictures so that they corresponded to the original story order, one could infer that the children possessed knowledge about the story schema that they used to guide their rearrangements. To determine success on the task, the child's rearrangement of the scrambled pictures was compared with the original story order by means of a rank order correlation, as this method of analysis considers not only individual pairs of pictures, but also the ordering of the pairs. The correlation between the original story order and the scrambled order presented to all children was .38.

At the time of the pre-test, the initial scores of the groups (see table 3) did not differ significantly from each other. The average correlation of .20 essentially indicated that the children in all groups rearranged the scrambled pictures so that they were more scrambled than the original scrambled order. (In contrast, Young (1983) found that Grade 1 children from upper middle-class families attending Toronto Board of Education schools were quite successful on this task; their mean correlation was .82.) After the twelve-week treatment period, all groups had shown some improvement but only the gain of .17 made by the story group was significant, F (1,237)=5.69; the change in the drama and no-treatment groups' correlations is not reliable, F (1,237)=1.42. However, the story group's post-test rearrangements, while improved over their pre-test ones, still do not bear a close resemblance to the original story order.

TABLE 2

Peabody Picture Vocabulary Test Scores

(expressed in percentiles)

Group	Pre-test Mean	Pre-test SD	Post-test Mean	Post-test SD
Drama	39.97	31.46	44.98	30.88
Story	37.10	29.99	46,25	29.59
No Treatment	37.12	28.30	40.15	27.13

TABLE 3

Rank Order Correlation Between Rearrangement

of Scrambled Picture Story and Original Story Order

Group	Pre-test		Post-test	
	Mean	SD	Mean	SD
Drama	.15	.48	.26	.43
Story	.20	.46	.37	.41
No Treatment	.24	.45	.33	.47

Quantitative and Qualitative Analyses of Children's Statements

The average number of all statements for each condition (i.e., description and recall, normal and scrambled order) is presented in table 4. When the children were describing the stories, they made more statements in the post-test than the pre-test, F (1,237)=32.04. They also made more statements about the stories in scrambled order than the stories in normal order, F (1,237)=46.63. A similar pattern exists for the recall data. When the children recalled the stories, they made more statements on the post-test than the pre-test, F (1,237)=22.6 and they made more statements for the scrambled order than the normal order, F (1,237)=22.6.

There were no significant differences between the groups nor did they change relative to each other on the post-test. These quantitative analyses, of course, provide no information about the quality of these statements. To evaluate the quality of the responses, the statements were scored as core, extra, or spurious (see Appendix B). As there were no group differences in the mean number of statements made about each story in description and recall, the response-type analyses are conducted on the actual number of statements each child made.

Core Statements

Core statements are those statements that were included in at least fifty per cent of Young's (1983) adult protocols and, thus, are considered central to the story. The mean number of core statements that children from each experimental group made in the first and second testing sessions when describing and recalling the stories is presented in table 5.

Orthogonal contrasts between the treatment means for description indicate that there was no difference between the story group and the drama and no-treatment groups at the time of the pre-test, F (1,237)<1. At the time of the post-test, all children made more core statements than during the first session ($\bar{X}$=15.96), F (1,237)=49.96. They also, on the average, made more core statements for normal stories than for scrambled stories across both sessions, ($\bar{X}$=18.43 vs. 16.30), F (1,237)=51.8.

TABLE 4

Mean Number of Statements in Description and Recall,
and Standard Deviations (in Parentheses)

Treatment Group	Time	Description		Recall	
		Normal Story	Scrambled Story	Normal Story	Scrambled Story
Drama	Pre-test	26.85 (10.58)	30.70 (13.32)	20.32 (8.65)	22.42 (9.63)
	Post-test	35.62 (13.94)	35.10 (14.73)	23.61 (11.03)	24.25 (11.27)
Stories	Pre-test	30.32 (15.37)	33.94 (15.47)	21.56 (10.39)	24.92 (12.44)
	Post-test	35.31 (16.29)	41.01 (17.56)	26.12 (11.09)	28.04 (12.55)
No Treatment	Pre-test	30.35 (13.68)	34.75 (16.24)	21.60 (9.25)	24.21 (10.58)
	Post-test	35.40 (15.89)	38.14 (14.86)	24.32 (10.83)	26.12 (10.88)

TABLE 5

Mean Number of Core Statements in Description and Recall, and Standard Deviations (in Parentheses)

Treatment Group	Time	Description		Recall	
		Normal Story	Scrambled Story	Normal Story	Scrambled Story
Drama	Pre-test	16.81 (6.20)	15.20 (5.79)	12.95 (6.19)	12.24 (5.46)
	Post-test	19.72 (5.86)	17.21 (7.92)	14.49 (5.64)	12.66 (6.79)
Stories	Pre-test	17.44 (6.48)	14.62 (5.25)	12.62 (6.33)	11.62 (5.95)
	Post-test	20.65 (6.79)	19.35 (6.75)	16.10 (6.17)	14.84 (6.18)
No Treatment	Pre-test	16.99 (6.94)	14.72 (5.47)	12.44 (5.65)	11.06 (5.01)
	Post-test	19.00 (5.65)	16.69 (5.81)	14.60 (6.10)	12.52 (6.63)

When the children were asked to recall the stories, they also made more core statements during the post-test, F (1,237)=35.82, and they made more core statements about normal than scrambled stories (13.87 vs. 12.49). There was a significant overall interaction between time and treatment, F (2,237)=4.10. Orthogonal contrasts indicate that this was accounted for because the gain of the story group was greater than the gains of the drama and the no-treatment group. The story group did not differ from the other two groups on the pre-test, F (1,237)<1, but did on the post-test, F (1,237)=7.14.

Extra Statements

Extra statements are also correct statements but are made less frequently than core statements. (They were made by less than fifty per cent of the adult sample used by Young (1983).) The only significant effects in the overall analysis of the number of extra statements made in description are for time, F (1,237)=17.77, and story order, F (1,237)=118.4 (see table 6). Children on the average included more extra statements in their story descriptions during the post-test than during the pre-test (15.71 vs. 13.08). They also, on the average, made more extra statements when describing scrambled than normal stories (16.47 vs. 12.32), which is the reverse of the findings for core statements. Orthogonal contrasts between treatment means indicate that children in the drama group made fewer extra statements about the stories during the pre-test than children in the story and no-treatment groups, F (1,237)=6.02. In contrast, at the time of the post-test, the drama groups did not differ from the story and no-treatment groups, F (1,237)=2.25.

In recall, the main effects of treatment group, F (1,237)=3.80, time, F (2,237)=6.17, and story order, F (1,237)=54.62, are significant. As in description, children in the story and no-treatment groups made more extra statements than children in the drama group during the pre-test (see table 7), F (1,237)=8.26. There was no significant difference between the drama, story, and no-treatment groups at the time of the post-test, F (1,237)=2.78.

TABLE 6

Mean Number of Extra Statements in Description and Recall, and Standard Deviations (in Parentheses)

Treatment Group	Time	Description		Recall	
		Normal Story	Scrambled Story	Normal Story	Scrambled Story
Drama	Pre-test	8.89 (5.61)	13.19 (8.70)	6.39 (3.84)	8.57 (5.65)
	Post-test	13.54 (9.16)	15.39 (9.74)	8.41 (6.49)	9.70 (6.64)
Stories	Pre-test	11.49 (9.89)	16.46 (11.09)	8.44 (6.04)	11.02 (6.92)
	Post-test	13.54 (11.78)	19.20 (12.18)	9.57 (6.91)	11.55 (7.80)
No Treatment	Pre-test	11.81 (8.16)	16.66 (11.48)	8.24 (5.76)	10.91 (6.77)
	Post-test	14.70 (11.58)	17.91 (10.80)	8.71 (6.84)	11.45 (6.16)

Spurious Statements

Spurious statements are those that are judged as far-fetched or incorrect statements about a picture. Young's (1983) adults were unlikely to make such statements when describing and recalling both normal and scrambled stories.

The number of spurious statements children in the three groups made in description and recall in the two testing sessions is shown in table 7. In description, spurious statements occurred more frequently, on the average, in the children's protocols when they described scrambled stories than they did in their descriptions of normal stories (2.86 vs. 1.33), F (1,237)=96.23. Orthogonal contrasts between treatment means show that the no-treatment group did not differ significantly from the combined drama and story groups at the time of the pre-test, F (1,237)=3.36. After treatment, however, the children in the drama and story groups made fewer spurious statements than children in the no-treatment group, F (1,237)=7.86.

An examination of the children's spurious statements in recall shows that story order was the only significant effect, F (1,237)=68.73. Children in all groups made more spurious statements when recalling scrambled stories than they did with normal stories, (1.95 vs. 0.78).

Story Statements

Story statements are statements that cannot be made on the basis of seeing just one picture, but rather refer to the relationship between two or more pictures. Although it is possible to have story statements that can be categorized as core, extra, or spurious, the last two categories occur rarely and even core story statements are infrequent. As the frequency of extra and spurious story statements is very low, separate analyses of them are not informative. In this section, the total number of story statements (i.e., core + extra + spurious = total) is analysed and core story statements also are analysed. All the means are presented in table 8.

TABLE 7

Mean Number of Spurious Statements in Description and Recall, and Standard Deviations (in Parentheses)

Treatment Group	Time	Description		Recall	
		Normal Story	Scrambled Story	Normal Story	Scrambled Story
Drama	Pre-test	1.15 (1.36)	2.34 (2.76)	0.99 (1.70)	1.61 (2.45)
	Post-test	1.15 (1.43)	2.64 (3.08)	0.71 (1.43)	1.76 (2.09)
Stories	Pre-test	1.40 (1.78)	2.85 (3.42)	0.62 (1.44)	2.27 (4.79)
	Post-test	1.02 (1.51)	2.46 (2.90)	0.45 (0.89)	1.65 (2.20)
No Treatment	Pre-test	1.55 (2.21)	3.36 (3.32)	0.92 (1.88)	2.24 (2.96)
	Post-test	1.71 (2.02)	3.51 (3.86)	1.01 (1.62)	2.15 (2.59)

TABLE 8

Mean Number of Core Story Statements and Total Story Statements in Description and Recall, and Standard Deviations (in Parentheses)

Treatment Group	Measure	Time	Description		Recall	
			Normal Story	Scrambled Story	Normal Story	Scrambled Story
Drama	Core Story Statements	Pre-test	4.29 (2.72)	3.45 (2.85)	3.64 (2.85)	3.45 (2.99)
		Post-test	4.65 (2.97)	3.70 (2.56)	3.74 (2.60)	3.16 (2.62)
	Total Story Statements	Pre-test	5.31 (3.19)	5.89 (3.98)	4.31 (3.06)	5.25 (3.83)
		Post-test	6.25 (4.15)	7.00 (4.58)	4.87 (3.45)	5.15 (3.83)
Stories	Core Story Statements	Pre-test	4.54 (2.82)	3.35 (2.78)	3.41 (2.64)	3.11 (2.85)
		Post-test	5.96 (2.98)	4.75 (2.34)	4.82 (2.44)	4.34 (2.87)
	Total Story Statements	Pre-test	5.66 (3.71)	5.75 (3.76)	3.87 (2.79)	4.82 (3.68)
		Post-test	7.66 (4.13)	9.50 (5.06)	5.94 (3.20)	7.11 (4.45)
No Treatment	Core Story Statements	Pre-test	4.16 (2.64)	3.52 (2.56)	3.47 (2.42)	3.07 (2.62)
		Post-test	5.05 (2.95)	3.54 (2.54)	4.29 (2.78)	2.86 (2.65)
	Total Story Statements	Pre-test	5.41 (3.55)	6.17 (3.81)	4.16 (2.83)	4.65 (3.27)
		Post-test	6.96 (4.06)	7.32 (4.42)	5.39 (3.67)	5.05 (3.78)

Total Story Statements

In description, there is a significant interaction of time and treatment group, F (2,237)=4.86, and the main effects of group, F (2,237)=3.08, and time, F (1,237)=45.78, are also significant. At the time of the pre-test, there was no difference in the total number of story statements made by children in the story group as opposed to children in the drama and no-treatment groups, F (1,237)<1. However, at the time of the post-test, the mean number of story statements made by children in the story group was significantly greater than the number by children in the other two groups, F (1,237)=13.66. All children increased the number of story statements they used from the pre-test to the post-test, ($\bar{X}$=5.70 and 7.45). Story statements also were used less for normal stories than scrambled stories (6.21 vs. 6.94), F (1,237)=10.53.

The same pattern existed for recall: more story statements were made in the post-test than the pre-test, (5.58 vs. 4.51), F (1,237)=13.8, and fewer story statements were used for normal than scrambled stories (4.76 vs. 5.34), F (1,237)=8.12. Again the gain for the story group was greater than that of the drama and no-treatment groups. There was no difference between the groups in the pre-test, F (1,237)<1, but the story group used significantly more story statements in the post-test than the other groups, F (1,237)=13.8.

Core Story Statements

For the subset of core story statements, in both description and recall, there were more core story statements for the normal stories than the scrambled stories and more statements in the post-test than pre-test. This gain was again greater for the story group than for drama and no-treatment. (Treatment x time interactions for description and recall, F (2,237)=3.61 and 6.35 respectively.)

In description, the story group was not different from the other two groups in the pre-test, F (1,237)<1, but it was in the post-test, F (1,237)=14.77. In recall, there was not a significant pre-test difference, but the post-test showed the story group made significantly more core story statements than the other two groups, F (1,237)=14.14.

Narrative Conventions

The children's use of narrative conventions, such as "Once upon a time...", "Suddenly...", and "And they lived happily ever after", is considered in this section. Table 9 lists the mean number of narrative conventions children in each treatment group made in describing and recalling the stories during the pre- and post-tests. In description, only the effect of story order is significant, F (1,237)=36.74. Children in all groups used more narrative conventions when describing scrambled stories than they did with normal stories (5.92 vs. 4.80).

In recall, the interaction between treatment group and story order is significant, F (2,237)=4.55, as are the main effects of story order, F (1,237)=10.08, and time, F (1,237)=8.42. While the children in the story group used more narrative conventions when recalling scrambled stories than normal stories, F (1,237)=4.9, the protocols of children in the drama and no-treatment groups did not show a comparable difference as a function of story order, F (1,237)=<1. In contrast to children in the drama and no-treatment groups, children in the story group used more narrative conventions during the post-test, F (1,237)<1, than the pre-test, F (1,237)=6.10.

TABLE 9

Mean Number of Narrative Conventions in Description and Recall, and Standard Deviations (in Parentheses)

Treatment Group	Time	Description		Recall	
		Normal Story	Scrambled Story	Normal Story	Scrambled Story
Drama	Pre-test	4.70 (5.02)	5.55 (5.16)	5.51 (4.88)	5.67 (4.79)
	Post-test	5.16 (5.45)	5.86 (6.04)	6.02 (5.27)	5.76 (4.50)
Stories	Pre-test	4.46 (5.26)	5.95 (6.96)	4.59 (4.84)	6.05 (5.77)
	Post-test	5.67 (6.56)	6.74 (6.86)	6.30 (4.31)	7.67 (5.30)
No Treatment	Pre-test	4.35 (4.37)	6.11 (5.29)	5.11 (4.75)	5.67 (4.52)
	Post-test	4.50 (4.38)	5.31 (4.94)	5.57 (3.89)	6.09 (4.42)

ANALYSES OF DRAMA GROUPS' RESULTS

As has been noted, the drama consultants, while sharing many commonalities, differed somewhat in the way they worked with their respective classes. These variations might be summarized as follows: consultant A usually followed the story-line in each book and then had the children role-play the story in small groups; consultant B generally focused on a scene (or scenes) within a story and had the children elaborate on it (them) in role-playing situations involving pairs; consultant C tended to use the story as a "jumping-off point" from which the children would begin, as a class, to elaborate on the story, to create new episodes in it, and/or to create thematically similar but new stories. These variations are valid and certainly fall within the approaches noted in Drama in the Formative Years (Ontario 1984). Nevertheless, these approaches emphasize different elements in the story, and there may be differences in the effects they have both on young children's knowledge of the structure of simple stories and on their ability to use that knowledge when trying to understand and remember stories. Thus, viewing the different emphases against the measures that were used warrants further analyses.

Consultant A tended to focus on the enactment of the story, while consultant B favoured the elaboration of scenes and the exploration of characters within the story. Consultant C's lessons were more likely to involve the extension of the story and invention. Children in her groups were asked to extend the stories, to alter characters and events and, hence, to create a new but related story. The measures used in the study tapped the children's knowledge of the structure of stories and their overall comprehension of the stories rather than their ability to analyse individual episodes. Extra experience with dramas favouring elaboration of individual scenes and characters might not affect these measures. The measures favour a holistic approach to stories; consequently, involvement with dramas that emphasize the enactment of whole stories might have a greater impact on children's knowledge of the story schema than those favouring elaboration of individual scenes and characters. Consultant A's group had seven English-speaking children and eleven children whose first language was not English. Her children came from a school that was classified as more inner-city than those of the other children receiving the drama intervention. Consultant B had sixteen native English-speakers and eleven children acquiring English as a second language. Consultant C had seventeen native English-speakers and eighteen non-native English-speakers.

The analyses discussed below were conducted using 3 x 2 x 2 split-plot ANOVAS for unequal numbers (least-squares solution) unless otherwise noted. Consultant (i.e., A, B, or C) or group was the between-subject factor, and testing time (i.e., pre- or post-test) and story order (i.e., normal or scrambled) were the within-subject factors. A .05 significance level was adopted for all tests. The aforementioned conservative approach for calculating the degrees of freedom for orthogonal contrasts was used in the following analyses. For convenience, the terms group A, group B, and group C will be used interchangeably with consultant A, consultant B, and consultant C.

Since the prior section has already dealt with the general pattern of gains in scores related to increased time, and the relationship between scores for the normal versus scrambled order, this section will focus on the data that differentiate the sub-groups.

Peabody Picture Vocabulary Test

The initial percentile scores for groups A, B, and C on the PPVT were 49.72, 48.67, and 28.28 respectively. Group C was significantly lower than A and B, F (1,77)=9.15. On the post-test the scores were 52.17, 48.51, and 38.15 respectively. The differences were no longer significant, F (1,77)=2.9.

Rearrangement of Scrambled Stories

The initial correlation values for groups A, B, and C in rearranging scrambled stories were .00, .13, and .24. These values improved significantly to .26, .21, and .31; however, there were no significant differences between groups A, B, and C.

Quantitative and Qualitative Analyses of Children's Statements

Initially, the total number of all kinds of statements was examined (see table 10). In analyzing the description protocols, a significant interaction was found between the consultant's group and time, F (2,77)=11.77. The significant interaction between group and time is attributable to the difference between group C and groups A and B at the time of the post-test, F (1,77)=31.65. Group C, in contrast to the others, greatly increased the amount

said about each story at the time of the post-test relative to the pre-test. This change accounts for the group difference, as children in group C said more than those in group A, F (1,77)=9.65, and group B, F (1,77)=15.96.

In recall as well, the interaction between group and time is reliable, F (2,77)=9.86. Again, the post-test difference between group C and groups A and B accounts for this effect, F (1,77)=15.75. As table 10 shows, the greatest change over time is noted in group C.

Core Statements

Table 11 presents the means for core statements. There is a significant interaction between time and consultant group in the average number of statements made in description, F (2,77)=8.44. Group A made significantly fewer statements on the pre-test than the other two groups (F (1,77)=4.80) but on the post-test, group C made significantly more than the other two groups, F (1,77)=17.90.

In recall, the main effects of group, F (2,77)=3.24, and story order, F (1,77)=5.45, are significant. Group C made more core statements in recall than group A, F (1,77)=6.41, but groups A and B did not differ, F (1,77)=3.15. Orthogonal contrasts between group means show that group A made fewer core statements during the pre-test than groups B and C, F (1,77)=5.02. Children in group C made more core statements when recalling stories on the post-test than the children in the other groups, F (1,77)=5.89.

Extra and Spurious Statements

Tables 12 and 13 present data on extra and spurious statements. In studying the extra statements made during description, a significant interaction was found between group and time, F (2,77)=9.91. Group C was not significantly different from the others on the pre-test, F (1,77)=1.27, but group C children used significantly more extra statements than children in the other two groups on the post-test, F (1,77)=26.49. In recall, the same pattern was found with group C not being different from groups A and B on the pre-test, F (1,77)<1, but making significantly more extra statements than groups A or B on the post-test, F (1,77)=19.10.

In the analyses of the spurious statements, no interaction effects were found to indicate that one group made gains that distinguished it significantly from another group.

TABLE 10

Mean Number of Statements in Description and Recall,
for Drama Sub-groups and Standard Deviations (in Parentheses)

Group	Time	Description		Recall	
		Normal Story	Scrambled Story	Normal Story	Scrambled Story
Consultant A	Pre-test	24.28 (12.40)	26.50 (12.25)	17.67 (9.29)	18.78 (7.79)
	Post-test	32.44 (13.86)	31.67 (10.09)	21.11 (8.09)	20.83 (6.76)
Consultant B	Pre-test	27.92 (8.78)	30.15 (9.57)	21.63 (7.26)	23.56 (8.96)
	Post-test	26.15 (8.06)	26.26 (7.40)	19.92 (7.77)	20.48 (10.19)
Consultant C	Pre-test	27.34 (10.94)	33.28 (15.83)	20.68 (9.23)	23.66 (10.71)
	Post-test	41.80 (13.57)	43.68 (16.35)	27.74 (11.79)	28.91 (12.38)

TABLE 11
Mean Number of Core Statements in Description and Recall,
for Drama Sub-groups and Standard Deviations (in Parentheses)

Group	Time	Description		Recall	
		Normal Story	Scrambled Story	Normal Story	Scrambled Story
Consultant A	Pre-test	14.39 (6.82)	13.78 (4.24)	10.22 (4.87)	10.28 (3.82)
	Post-test	19.39 (6.41)	15.11 (3.85)	12.50 (4.34)	10.11 (3.83)
Consultant B	Pre-test	18.26 (5.65)	15.63 (6.25)	13.81 (5.46)	12.92 (5.88)
	Post-test	16.92 (3.53)	14.30 (4.81)	13.85 (5.30)	12.41 (7.08)
Consultant C	Pre-test	16.94 (6.08)	15.60 (6.13)	13.68 (7.01)	12.71 (5.74)
	Post-test	22.06 (6.15)	20.54 (10.01)	16.00 (6.19)	14.17 (7.46)

TABLE 12
Mean Number of Extra Statements in Description and Recall,
and Standard Deviations (in Parentheses)

Group	Time	Description		Recall	
		Normal Story	Scrambled Story	Normal Story	Scrambled Story
Consultant A	Pre-test	8.55 (6.09)	11.05 (7.97)	6.05 (3.95)	7.22 (4.96)
	Post-test	11.39 (8.22)	13.72 (8.28)	7.55 (4.74)	7.89 (5.22)
Consultant B	Pre-test	8.74 (4.50)	12.33 (5.70)	6.89 (3.94)	8.74 (5.29)
	Post-test	8.48 (5.77)	9.96 (4.48)	5.48 (3.79)	6.67 (3.55)
Consultant C	Pre-test	9.17 (6.24)	14.94 (10.63)	6.17 (3.78)	9.14 (6.24)
	Post-test	18.54 (9.35)	20.43 (10.94)	11.11 (7.82)	12.97 (7.69)

TABLE 13
Mean Number of Spurious Statements in Description and Recall,
for Drama Sub-groups and Standard Deviations (in Parentheses)

Group	Time	Description		Recall	
		Normal Story	Scrambled Story	Normal Story	Scrambled Story
Consultant A	Pre-test	1.33 (1.57)	1.78 (2.36)	1.39 (2.66)	1.28 (1.81)
	Post-test	1.67 (1.78)	2.89 (3.97)	1.05 (2.15)	2.28 (2.69)
Consultant B	Pre-test	0.92 (1.27)	2.18 (2.32)	0.92 (1.46)	1.59 (2.91)
	Post-test	0.74 (1.02)	2.00 (2.20)	0.59 (1.12)	1.41 (1.89)
Consultant C	Pre-test	1.23 (1.33)	2.74 (3.23)	0.83 (1.20)	1.80 (2.40)
	Post-test	1.20 (1.45)	3.00 (3.16)	0.63 (1.19)	1.77 (1.89)

Story Statements

When examining the total number of story statements made during description, a significant interaction between group and time, F (2,77)=4.21, was found (see table 14). At the time of the pre-test, group A was significantly lower than groups B and C, F (1,77)=4.55. On the post-test, the gains were such that group C was significantly higher than groups A and B, F (1,77)=6.00. On the recall measures, there is no interaction.

Further analyses on the sub-group of story statements that are core statements (i.e., core story statements) showed no significant interactions for either description or recall (see table 15). In description, on the pre-test, group B used more core statements than the other two groups, F (1,77)=4.22; on the post-test, the difference in favour of group C was not significant, F (1,77)=2.29. In description, there was not a time-related difference.

Narrative Conventions

The examination of the data for narrative conventions again showed no interactions involving time and group. This was true both for description and recall (see table 16).

TABLE 14
Mean Number of Story Statements in Description and Recall,
and Standard Deviations (in Parentheses)

Group	Time	Description		Recall	
		Normal Story	Scrambled Story	Normal Story	Scrambled Story
Consultant A	Pre-test	3.94 (2.86)	4.44 (3.50)	2.94 (2.23)	4.33 (3.09)
	Post-test	5.94 (4.16)	5.67 (4.07)	4.78 (3.08)	4.11 (3.83)
Consultant B	Pre-test	5.70 (2.60)	7.52 (3.68)	5.11 (3.03)	5.78 (3.72)
	Post-test	6.15 (3.36)	6.59 (3.73)	4.67 (3.41)	5.04 (3.69)
Consultant C	Pre-test	5.71 (3.63)	5.37 (4.09)	4.40 (3.28)	5.31 (4.24)
	Post-test	7.26 (4.55)	8.00 (5.25)	5.08 (3.74)	5.77 (3.91)

TABLE 15
Mean Number of Core Story Statements in Description and Recall,
and Standard Deviations (in Parentheses)

Group	Time	Description		Recall	
		Normal Story	Scrambled Story	Normal Story	Scrambled Story
Consultant A	Pre-test	3.44 (2.36)	2.83 (2.31)	2.72 (2.24)	2.61 (2.09)
	Post-test	4.33 (2.20)	3.05 (2.46)	3.17 (2.09)	2.17 (2.25)
Consultant B	Pre-test	4.67 (2.42)	4.33 (2.99)	4.22 (3.08)	3.89 (3.21)
	Post-test	4.41 (2.90)	3.55 (2.24)	3.89 (2.74)	3.30 (2.52)
Consultant C	Pre-test	4.43 (3.07)	3.08 (2.90)	3.66 (2.89)	3.54 (3.19)
	Post-test	5.00 (3.39)	4.14 (2.82)	3.91 (2.76)	3.57 (2.80)

TABLE 16
Mean Number of Narrative Conventions in Description and Recall,
and Standard Deviations (in Parentheses)

Group	Time	Description		Recall	
		Normal Story	Scrambled Story	Normal Story	Scrambled Story
Consultant A	Pre-test	3.72 (3.91)	3.78 (4.14)	4.55 (3.65)	3.72 (2.89)
	Post-test	5.05 (6.82)	4.55 (7.11)	5.39 (6.13)	4.61 (3.43)
Consultant B	Pre-test	3.44 (3.13)	5.55 (4.33)	4.44 (2.89)	4.78 (3.44)
	Post-test	3.81 (4.09)	5.67 (4.71)	4.44 (2.75)	4.00 (2.83)
Consultant C	Pre-test	6.17 (6.27)	6.45 (6.05)	6.83 (6.26)	7.37 (5.87)
	Post-test	6.26 (5.49)	6.68 (6.39)	7.57 (5.94)	7.71 (5.29)

ANALYSES OF THE STORY GROUPS

Half of the children (three classes) had the stories read by their regular classroom teacher. The others (three classes) had the stories read by a visitor (the co-investigator). In designing the study, it seemed possible that the difference between the regular classroom teacher and an outside visitor reading might affect the results. Thus, analyses were carried out to examine this factor.

A series of split-plot ANOVAs were conducted to determine if the difference between the classroom teacher and an outside reader affected the pattern of change in the story group. In the majority of these analyses, the reader (i.e., teacher or co-investigator) was the between-subject factor while testing time and story order were within-subject factors. However, the analyses of PPVT scores and the picture rearrangement data were conducted using 2 x 2 split-plot ANOVAs. As the effects of time and story order on the story group already have been considered in the overall analyses, only effects involving the readers will be discussed in detail.

In neither the Peabody Picture Vocabulary Test nor the rearrangement of the scrambled pictures were there any significant interactions between group and time.

Quantitative and Qualitative Analyses of Children's Statements

When the total number of statements made in describing the stories is analysed, no interaction between time and group is found (see table 17). When the data for recall are studied, however, there is a significant interaction, F (1,78)=5.40. This is accounted for by the gains made by the visitors' group which was lower in the pre-test than the teachers' group, but was nearly the same in the post-test.

In examining the various types of statements, the pattern remains similar. For core statements (see table 18), there is an interaction between time, order, and group in recall, F (1,78)=4.69. The increase in statements from pre- to post-test was similar for both scrambled and normal stories for the children who had the visitor. For those who had their teacher, there was a greater gain in the average numbers of statements made in the normal stories rather than the scrambled ones.

In the analysis of extra statements (see table 19), a significant interaction is found in the recall data, $\underline{F}$ (1,78)=4.29. This is accounted for by the gains made by the children who had the visitor in comparison to a slight loss among the others.

Spurious statements and story statements show no interaction between time and group, nor is there a significant interaction in the data for the narrative conventions.

TABLE 17

Mean Number of Statements in Description and Recall, and Standard Deviations (in Parentheses)

Group	Time	Description		Recall	
		Normal Story	Scrambled Story	Normal Story	Scrambled Story
Teachers' Group	Pre-test	35.35 (16.50)	37.15 (14.48)	23.40 (12.34)	27.12 (14.07)
	Post-test	36.02 (15.36)	41.62 (16.91)	25.72 (12.65)	26.70 (12.34)
Visitor's Group	Pre-test	25.30 (12.43)	30.72 (15.94)	19.72 (7.73)	22.72 (10.28)
	Post-test	34.60 (16.71)	40.40 (18.13)	26.52 (9.71)	29.37 (12.56)

TABLE 18

Mean Number of Core Statements in Description and Recall,
and Standard Deviations (in Parentheses)

Group	Time	Description		Recall	
		Normal Story	Scrambled Story	Normal Story	Scrambled Story
Teachers' Group	Pre-test	19.17 (6.74)	15.45 (5.86)	13.30 (7.36)	12.85 (6.63)
	Post-test	22.05 (6.92)	19.52 (6.76)	16.50 (7.36)	13.87 (6.71)
Visitor's Group	Pre-test	15.70 (5.77)	13.80 (4.48)	11.95 (5.12)	10.40 (4.90)
	Post-test	19.25 (6.44)	19.17 (6.82)	15.70 (4.74)	15.80 (5.53)

TABLE 19

Mean Number of Extra Statements in Description and Recall, and Standard Deviations (in Parentheses)

Group	Time	Description		Recall	
		Normal Story	Scrambled Story	Normal Story	Scrambled Story
Teachers' Group	Pre-test	14.52 (11.45)	18.30 (9.81)	9.27 (6.19)	11.95 (8.01)
	Post-test	12.72 (10.65)	19.60 (11.74)	8.85 (7.17)	11.10 (7.41)
Visitor's Group	Pre-test	8.45 (6.90)	14.62 (12.09)	7.60 (5.84)	10.10 (5.57)
	Post-test	14.35 (12.89)	18.80 (12.74)	10.30(6.66)	12.00 (8.62)

INNER-CITINESS AS A FACTOR

The results raised questions in the investigators' minds about the degree to which the extent of inner-citiness might have affected the results. The study was not designed to examine this variable so the results of any analyses can only be taken as suggestive or interesting.

As table 20 shows, the distribution of classes and subjects was not even across the different categories of inner-city schools. As has been noted, participation was voluntary and the schools categorized as "IA" did not have classes that the teachers and principals felt were ready for drama.

It was possible to repeat the analyses of the previous section regrouping the children into category I (IA and IB) and category II schools. This essentially takes the grouping of the last chapter and changes it by taking one class from the "teacher" group and adding it to the "visitor" group. If there are more differences between group I and group II than between "teachers" and "visitor", then inner-citiness may be at least a partial explanation for the differences in the previous chapter.

In neither the PPVT test nor the rearrangement of the scrambled stories was there an interaction between group and time.

It should be noted that group I (see table 21) had higher scores than group II, F (1,78)=9.50.

Quantitative and Qualitative Analyses of Children's Statements

The total number of statements made by both groups is reported in table 22.

The children from the class I schools increased the amount said in description over time while the other children did not, F (1,78)=11.41. The initial superiority of the children in class II accounts for the group difference, F (1,78)=6.96. The same pattern of results is noted in recall with the students from class I schools increasing the number of statements and the students from class II schools not, F (1,78)=7.85.

TABLE 20

Composition of the Treatment Groups as a Function of the Inner-City Ranking of the Schools

Inner-city Ranking	Treatment Groups			Total
	Drama	Stories	No Treatment	
IA	0	40	35	75
IB	18	12	16	46
II	62	28	29	119
TOTALS	80	80	80	240

TABLE 21

Mean Rank-Order Correlations on the Picture Rearrangement Task for Children in Schools Ranked as Class I and Class II on the Inner-City Scale, and Standard Deviations (in Parentheses)

Group	Time	Mean Correlation
Class I Schools	Pre-test	.260 (.444)
	Post-test	.471 (.331)
Class II Schools	Pre-test	.099 (.495)
	Post-test	.182 (.472)

TABLE 22

Mean Number of Statements in Description and Recall
and Standard Deviations (in Parentheses)

Group	Time	Description		Recall	
		Normal Story	Scrambled Story	Normal Story	Scrambled Story
Class I Schools	Pre-test	24.83 (11.73)	29.96 (15.16)	19.83 (8.97)	23.81 (11.85)
	Post-test	34.92 (15.64)	40.52 (17.10)	26.83 (9.17)	29.52 (11.77)
Class II Schools	Pre-test	40.53 (16.28)	41.32 (13.39)	24.78 (12.14)	27.00 (13.44)
	Post-test	36.03 (16.81)	41.93 (18.32)	24.82 (14.36)	25.28 (13.38)

In examining the various types of statements, there are similar findings. The results for core statements are reported in table 23. In description, children from class I schools increased their use of core statements to a greater degree than children from class II schools, F (1,78)=5.24. Again, students from class II schools had significantly higher scores, F (1,78)=7.45, accounted for by their higher pre-test score. In recall, the interaction between group and time is reliable, F (1,78)=6.03. Again, the greater gain is observed for students from class I schools.

For extra statements (see table 24), there was an increase in the number of extra statements used for description by students from class I schools, and a slight decrease for students from class II schools yielding a reliable group effect, F (1,79)=4.63. The same pattern of increase for children from class I schools and decrease for those from class II schools was found for recall and accounts for the significant interaction between group and time, F (1,78)=4.74.

In the analyses of spurious statements, there were no significant results related to class I or class II schools.

Table 25 presents the story statements, both the total story statements and the core story statements. In the examination of the total story statements, there is a significant interaction between group and story order in description, F (1,78)=5.89. This can be attributed to the fact that children from class I schools used more story statements when describing scrambled stories than they did with normal stories, whereas children from class II schools used about the same number. There are no significant effects in recall relative to class I or II schools.

For the core story statements (table 25), there is a significant interaction, F (1,78)=4.85. Children from class II schools used fewer core story statements when describing scrambled stories as opposed to normal stories, but there was not a substantial difference in the class I children's use of core story statements as a function of story order. In examining the recall data, children from class I schools increased their use of core story statements but those from class II schools did not, F (1,78)=5.14.

Table 26 shows the data for narrative conventions. There is no interaction related to groups in description and the group from class II schools is generally superior, F (1,78)=12.00. In recall, there is a significant interaction, F (1,78)=4.26, because of an increase in their use by children in class I schools while there was no increase among children in class II schools.

These analyses show more differences than those based only on whether the stories were presented by a teacher or a visitor. This clearly suggests that degree of inner-citiness may well be a critical and confounding factor. The children from the most inner-city categories had lower scores and seemed likely to make greater gains.

TABLE 23

Mean Number of Core Statements in Description and Recall,
and Standard Deviations (in Parentheses)

Group	Time	Description		Recall	
		Normal Story	Scrambled Story	Normal Story	Scrambled Story
Class I Schools	Pre-test	15.54 (5.71)	13.38 (4.52)	12.04 (5.39)	11.10 (5.47)
	Post-test	20.08 (6.57)	19.28 (6.24)	16.23 (4.71)	16.06 (5.58)
Class II Schools	Pre-test	20.96 (6.43)	16.93 (5.80)	13.71 (7.78)	12.61 (6.76)
	Post-test	21.71 (7.18)	19.46 (7.73)	15.86 (8.32)	12.57 (6.70)

TABLE 24

Mean Number of Extra Statements in Description and Recall, and Standard Deviations (in Parentheses)

Group	Time	Description		Recall	
		Normal Story	Scrambled Story	Normal Story	Scrambled Story
Class I Schools	Pre-test	8.11 (6.57)	14.04 (11.24)	7.54 (5.87)	10.35 (6.01)
	Post-test	13.60 (11.71)	18.83 (12.18)	10.06 (6.41)	11.75 (7.87)
Class II Schools	Pre-test	17.75 (11.89)	20.96 (9.44)	10.11 (6.10)	12.28 (8.32)
	Post-test	13.43 (12.11)	19.89 (12.36)	8.68 (7.81)	11.18 (8.37)

TABLE 25

Core Story Statements and Total Story Statements in Description and Recall, Means Reported and Standard Deviations (in Parentheses)

Group	Measure	Time	Description		Recall	
			Normal Story	Scrambled Story	Normal Story	Scrambled Story
Class I Schools:	Core Story Statements	Pre-test	4.00 (2.78)	3.31 (2.99)	3.42 (2.75)	3.00 (2.86)
		Post-test	5.83 (3.07)	4.94 (2.29)	5.29 (2.56)	4.85 (2.77)
	Total Story Statements	Pre-test	5.11 (3.78)	5.86 (4.05)	3.83 (2.95)	4.69 (3.81)
		Post-test	7.50 (4.16)	9.90 (5.41)	6.40 (3.14)	7.56 (4.17)
Class II Schools:	Core Story Statements	Pre-test	5.53 (2.66)	3.43 (2.39)	3.39 (2.47)	3.32 (2.88)
		Post-test	6.21 (2.85)	4.39 (2.44)	3.96 (1.95)	3.39 (2.86)
	Total Story Statements	Pre-test	6.68 (3.38)	5.53 (3.19)	3.96 (2.52)	5.07 (3.46)
		Post-test	7.96 (4.20)	8.75 (4.32)	5.07 (3.20)	6.28 (4.90)

TABLE 26

Mean Number of Narrative Conventions in Description and Recall, and Standard Deviations (in Parentheses)

group		Description		Recall	
		Normal Story	Scrambled Story	Normal Story	Scrambled Story
Class I Schools	Pre-test	3.08 (3.24)	4.29 (4.97)	3.92 (3.14)	5.34 (4.75)
	Post-test	4.36 (4.58)	5.82 (5.45)	6.56 (4.08)	7.61 (4.99)
Class II Schools	Pre-test	7.03 (8.78)	9.03 (8.76)	5.82 (4.74)	7.36 (5.94)
	Post-test	8.11 (7.10)	8.43 (8.94)	5.82 (6.91)	7.78 (7.23)

SUMMARY AND DISCUSSION

This study was initiated to provide a partial examination of whether there might be academic consequences from introducing the Arts in education. The area of drama was selected and, besides the program provided by the drama consultants (five classes), there also was a program of daily story-reading provided by the classroom teacher (three classes) or a visitor (three classes). A typical drama program took about ninety minutes and each of the the five classes had such a presentation eighteen times during the twelve week program. The stories took twenty to thirty minutes daily. In order to try to look at academic consequences in a way that was not too inconsistent with the "humanistic" thrust of the interventions, a strategy that had been developed by Young (1983) was adopted and she became a co-investigator. Her procedure was to present the children with a set of twelve pictures that formed a story (adapted from books by Mayer). The children told the story while looking at the pictures and then told the story from memory to a second person. The procedure was repeated with a second series of pictures in a scrambled order and the child was given a chance to rearrange them. The stories that the children told were transcribed and scored. First, the statements were tallied as to whether they were core, extra, or spurious. Then the transcripts were scored for the use of story statements and narrative conventions. In addition, data from the Peabody Picture Vocabulary Test were collected.

It was noted that, although the drama consultants provided similar programs, their delivery differed in detail. The data on the outcomes in their classes were analysed as were the data from the children who had stories read by their teacher or the visitor. A further analysis looked at the story group in terms of the "inner-citiness" of the schools.

As a generalization, it should be noted that, for most of the measures, there were large standard deviations. In spite of the fact that these children all came from schools classified as inner-city, there was a wide range of backgrounds (immigrant vs. non-immigrant, parental occupations, etc.) among these children and considerable variability in their performance was noted. The results present some interesting general patterns for these children as well as pointing to differences that are associated with the various treatments.

The children in all groups improved their performance on the Peabody Picture Vocabulary Test, with the effects of age controlled; the increase, however, was significant only for the two groups receiving the treatment. In simple terms, one could say that both the drama and story experiences led to vocabulary improvement on a test that correlates with academic achievement.

The children did poorly when asked to rearrange the scrambled stories. This is a complex task that involves not just language skills but an understanding of stories and their conventional structure. The improvements were significant only for the group that had stories read to them. Because of the nature of the treatment, the story group heard three times as many stories as the drama group. This could account for the differential improvements.

In examining the quantity and quality of the statements that children made about the pictures, there are several common characteristics in all groups. In the post-test, children used more statements than in the pre-test and this increase was found in all categories except that of spurious statements. This was true for both description and recall.

In examining the normal and the scrambled stories, it was found that children used more core statements and more core story statements when describing the stories in normal order. The children used more extra statements and narrative conventions when describing scrambled stories. These findings are understandable since we know that the revised order of the scrambled pictures that the children created was usually quite far from the ideal or "logical" arrangement. If the pictures were then still in a scrambled order, it is not surprising that extra and spurious elements, as well as narrative conventions, would be employed to "patch" the story together. Conversely, one would expect the core or central elements to be more likely identified and used for a story in its "proper" order.

If one expects in general an increased fluency (more overall statements) from all children during a half-year of development, one would also hope that there would be a decrease in spurious statements. It was the purpose of this study to see if the treatments contributed to these trends. They did. Unlike the treatment groups, the no-treatment group did not decrease its use of spurious statements (for description). The drama group, which had been below the other two groups initially, was not significantly different from them on the post-test. It seems appropriate that this category of extra statements (which might be seen as appropriate elaboration, of additional details) should be the section where drama made a difference. For the recall of core statements, for story statements (description and recall), core story statements (description and recall), and the use of narrative conventions in recall (only when the story was scrambled), it was the group with the story treatment that was significantly improved. It is appropriate to argue that the drama treatment was unlikely to place as much emphasis on those elements of stories that were emphasized by having the stories read.

As a brief summary, it might be said that there were positive academically-related effects for the drama group and the story group (particularly the latter). The extent and

nature of the gain could be interpreted as reflecting in part the degree to which a measure was similar to some of the characteristics of the treatment.

In considering the variations among the drama consultants' programs, it seemed that group C gained the most in the total number of statements (description and recall). That group also gained more than the other two groups on core statements and story statements (description). This was the program that had encouraged, more than the other two, story creation through expansion, extension, and/or creation of similar, but new, stories. It appears here that there was a general gain (i.e., fluency) that was not large enough to be easily demonstrated in the sub-measures. The tasks for group C children can be seen as closer to the requirements for the story description and recall than those of groups A and B.

To examine the effects of an external story reader, comparisons were made between the visitor and the three teachers. There were a few significant differences. There were also several differences that were close to significance that were not reported. In several instances, the group the visitor read to had lower pre-test scores and had "caught up" to the rest on the post-test. This may be because degree of inner-citiness is a confounding factor.

Because participation was voluntary in this study, the groups could not be equally distributed among inner-city categories I and II. For the story group, it was possible to reanalyse the data comparing children from groups I and II. (All the children who received their story from the visitor were in group I.) This grouping revealed more significant differences, because of greater gains by group I than group II, than there were for the comparisons between visitor and classroom teacher. Though the variables are confounded, this suggests that the program had more impact on children who came from the schools that were categorized as being the most "inner-city". (The one school that was categorized as class I and received drama did not receive consultant C's program.)

In considering the results from this report, there are two generalizations that seem appropriate. The daily use of stories or the use of drama, besides having intrinsic value, can contribute to academic achievement. For this relatively brief twelve-week program, the contribution was modest. The other important point is that one should expect the improved academic achievement to be in specific areas that are directly related to the particular elements of the new program. In addition, it is possible that, where these direct relationships between the nature of the program and the measures of achievement exist, we have the greatest chance for demonstrable benefits for storytelling and drama with inner-city children.

REFERENCES AND BIBLIOGRAPHY

Anderson, R. C. "The Notion of Schemata and the Educational Enterprise: General Discussion of the Conference". In Schooling and the Acquisition of Knowledge, edited by R. C. Anderson, R. J. Spiro, and W. Montague. Hillsdale, N.J.: Erlbaum, 1977.

Anderson, R. C., and Ortony, A. "On Putting Apples into Bottles: A Problem of Polysemy". Cognitive Psychology 7 (1975), pp. 167-180.

Applebaum, A., and Tuma, J. "Social Class and Test Performance: Comparative Validity of the Peabody with the WISC and WISC-R for Two Socioeconomic Groups". Psychological Reports 40 (1977), pp. 139-145.

Ausubel, D. "How Reversible are the Cognitive and Motivational Effects of Cultural Deprivation? Implications for Teaching the Culturally Deprived Child". In Education of the Disadvantaged, edited by A. Passow, M. Goldberg, and A. Tannenbaum. New York: Holt, Rinehart and Winston, 1967.

Bates, J.; Rutledge, D. G.; and Green, D. Negative Correlation Between Socio-economic Status and Achievement in Schools. Report to the Chairman and Members of the Inner City Committee of the Board of Education for the City of Toronto, January 14, 1980.

Bates, J.; Rutledge, D. G.; and McKeown, E. N. Education in Toronto Inner City. Report to the Chairman and Members of the Inner City Committee of the Board of Education for the City of Toronto, February 1, 1981.

Bereiter, C., and Engelmann, S. Teaching Disadvantaged Children in the Preschool. Engelwood Cliffs, N.J.: Prentice-Hall, 1966.

Bernstein, B. "Social Class and Linguistic Development: A Theory of Social Learning". In Education, Economy and Society, edited by A.H. Halsey, J. Floud, and A. Anderson. New York: Free Press, 1961.

Bernstein, B. "Social Class, Language and Socialization". In Class, Codes and Control, edited by B. Bernstein. Vol. I. London: Routledge and Kegan Paul, 1970.(b)

Bernstein, B. "A Sociolinguistic Approach to Socialization: With Some Reference to Educability". In Language and Poverty, edited by F. Williams. Chicago: Rand McNally, 1970.(a)

Bloom, B. Stability and Change in Human Characterisitics. New York: Wiley, 1964.

Bower, G. "Experiments on Story Comprehension and Recall". Discourse Processes 1 (1978), pp. 211-231.

Bransford, J.; Nitsch, K.; and Franks, J. "Schooling and the Facilitation of Knowing". In Schooling and the Acquisition of Knowledge, edited by R. C. Anderson, R. J. Spiro, and W. Montague. Hillsdale, N.J.: Erlbaum, 1977.

Brown, R. A First Language: The Early Stages. Cambridge, Mass.: Harvard University Press, 1973.

Burks, B. S. "The Relative Influence of Nature and Nurture Upon Mental Development: A Comparative Study of Foster Parent-Foster Child Resemblance and True Parent-True Child Resemblance". 27th Yearbook of the National Society for the Study of Education Part I, (1928), pp. 219-316.

Caldwell, B. M. "Impact of Interest in Early Cognitive Stimulation". In Perspectives in Child Psychopathology, edited by H. Rie. New York: Atherton Press, 1971.

Cazden, C. "The Neglected Situation in Child Language Research and Education". In Language and Poverty, edited by F. Williams. Chicago: Markham, 1970.

Cazden, C. "Subcultural Differences in Child Language: An Interdisciplinary Review". Merrill-Palmer Quarterly 12 (1966), pp. 185-218.

Cochran, W., and Cox, G. Experimental Designs. 2nd ed. New York: Wiley, 1957.

Coleman, J. S. Equality of Educational Opportunity. Washington D.C.: U.S. Government Printing Office, 1966.

Courtney, R., and Park, P. Learning Through the Arts: The Arts in Primary and Junior Education in Ontario - Roles and Relationships in the General Program of Studies. Toronto: Ministry of Education, 1980.

Cronbach, L. Essential of Psychological Testing. New York: Harper and Row, 1949.

Dale, P. Language Development. 2nd ed. New York: Holt, Rinehart and Winston, 1976.

Deutsch, C. P. "Learning and the Disadvantaged". In The Disadvantaged Child, edited by M. Deutsch et al. New York: Basic Books, 1967.(a)

Deutsch, M. "Minority Group and Class Status as Related to Social and Personality Factors in Scholastic Achievement". Monographs of the Society for Applied Anthropology no. 2, 1962.

Deutsch, M. "Nursery Education: The Influence of Social Programming on Early Development". In The Disadvantaged Child, edited by M. Deutsch et al. New York: Basic Books, 1967.(b)

Deutsch, M. "Social and Psychological Perspectives on the Development of the Disadvantaged Learner". Journal of Negro Education 33 (1964), pp. 232-244.

Donaldson, M. Children's Minds. Glasgow: William Collins Sons, 1978.

Dunn, L. M. Peabody Picture Vocabulary Test. Mineapolis, Minn: American Guidance Service, 1959.

Gardner, H. Frames of Mind. Toronto: Fitzhenry and Whiteside, 1983.

Ginsburg, H. The Myth of the Deprived Child. Englewood Cliffs, N. J.: Prentice-Hall, 1972.

Goh, D., and Lund, J. "Verbal Reinforcement, Socio-economic Status and Intelligence Test Performance of Preschool Children". Perceptual and Motor Skills 44 (1977), pp. 1011-1014.

Hayes, W. Statistics for the Social Sciences. New York: Holt, Rinehart and Winston, 1973.

Heath, S. B. "The Functions and Uses of Literacy". Journal of Communications 30 (1980), pp. 123-133.

Heath, S. B. "Protean Shapes in Literacy Events: Ever-shifting Oral and Literate Traditions". In Advances in Discourse Processes. Vol. IX. Spoken and Written Language, edited by D. Tannen. Norwood, N. J.: Ablex, 1982.(b)

Heath, S. B. "What No Bedtime Story Means: Narrative Skills at Home and School". Language and Society 11 (1982), pp. 49-76.(a)

Hildebrand, V. Introduction to Early Childhood Education. London: Collier-Macmillan, 1971.

Holdaway, D. The Foundations of Literacy. Sydney: Ashton Scholastic, 1979.

Houston, S. "A Re-examination of Some Assumptions About the Language of the Disadvantaged Child". Child Development 41 (1970), pp. 947-963.

Houston, S. "A Sociolinguistic Consideration of the Black English of Children in Northern Florida". Language 45 (1969), pp. 599-607.

Hunt, J. The Challenge of Incompetence and Poverty. Urbana: University of Illinois Press, 1969.

Hutchison, R. "Social Class Difference in Preschool Children's Speech Codes and Code-switching Abilities". Master's thesis, University of Toronto, 1977.

Kintsch, W. The Representation of Meaning in Memory. Hillsdale, N.J.: Erlbaum, 1974.

Kintsch, W., and van Dijk, T. "Comment on se rapelle et on resume des histoires". Languages 40 (1975), pp. 98-116.

Kintsch, W., and van Dijk, T. "Toward a Model of Text Comprehension and Production". Psychological Bulletin 1 (1978), pp. 14-35.

Kirk, R. Experimental Design Procedures for the Behavioural Sciences. Belmont, Ca.: Wadsworth, 1968.

Labov, W. Language in the Inner City. Philadelphia: University of Pennsylvania Press, 1972.

Labov, W. "The Logic of Nonstandard English". In Language and Poverty, edited by F. Williams. Chicago: Markham, 1970.

Lyman, H. "Peabody Picture Vocabulary Test". In The Mental Measurements Yearbook. Vol. 6. Edited by O. Buros. Highland Park, N.J.: Gryphon Press, 1965.

Mandler, J., and Johnson, N. "Remembrance of Things Parsed: Story Structure and Recall". Cognitive Psychology 9 (1977), pp. 111-151.

Mayer, M. A Boy, a Dog, a Frog, and a Friend. New York: Dial Press, 1971.

Mayer, M. Frog on His Own. New York: Dial Press, 1973.

Mayer, M. Frog, Where Are You? New York: Dial Press, 1969.

Mayer, M., and Mayer, M. One Frog Too Many. New York: Dial Press, 1975.

Milner, J. "A Study of the Relationship Between Reading Readiness in Grade One Children and Patterns of Parent-Child Interaction". Child Development 22 (1951), pp. 95-112.

Ninio, A., and Bruner, J. "The Achievement and Antecedents of Labelling". Journal of Child Language 5 (1978), pp. 1-15.

Olson, D. "From Utterance to Text: The Bias of Language in Speech and Writing". Harvard Educational Review 47 (1977), pp. 257-281.(a)

Olson, D. "The Language of Instruction: On the Literate Bias of Schooling". In Schooling and Acquisition of Knowledge, edited by R. Anderson, R. Spiro, and W. Montague. Hillsdale, N.J.: Erlbaum, 1977.(b)

Ontario. Ministry of Education. Drama in the Formative Years. Toronto: Ministry of Education, 1984.

Pichert, J., and Anderson, R. "Taking Different Perspective on a Story". Journal of Educational Psychology 69 (1977), pp. 309-315.

Piers, E. "Peabody Picture Vocabulary Test". In The Mental Measurements Yearbook Vol. 6. Edited by O. Buros. Highland Park, N.J.: Gryphon Press, 1965.

Poulsen, D.; Kintsch, E.; Kintsch, W.; and Premack, D. "Children's Comprehension and Memory for Stories". Journal of Experimental Child Psychology 28 (1979), pp. 379-403.

Riessman, F. The Culturally Deprived Child. New York: Harper and Row, 1962.

Saltz, E.; Dixon, D.; and Johnson, J. "Training Disadvantaged Preschoolers on Various Fantasy Activities: Effects on Cognitive Functioning and Impulse Control". Child Development 48 (1977), pp. 367-380.

Saterfiel, T.; Cagle, J.; and Grace, K. "Evaluation of Preschool Experience and Their Relationship to First Grade Basic Skills Achievement in the Greenwood Public School". Paper presented at the Annual Meeting of the American Educational Research Association, New York, March 1982.

Scollon, R., and Scollon, S. "Narrative, Literacy and Face in Interethnic Communication". In Advance in Discourse Processes Vol. 7. Edited by R. O. Freedle. Norwood, N.J.: Ablex, 1981.

Seitz, V.; Abelson, W.; Levine, E.; and Zigler, E. "Effects of Place of Testing on the Peabody Picture Vocabulary Test Scores of Disadvantaged Head Start and Non-Head Start Children". Child Development 46 (1975), pp. 481-486.

Skodak, M., and Skeels, H. M. "A Final Follow-up Study of One Hundred Adopted Children". Journal of Genetic Pyschology 75 (1949), pp. 85-125.

Smilansky, S. The Effects of Sociodramatic Play on Disadvantaged Preschool Children. New York: Wiley, 1968.

Smith, P. K., and Syddall, S. "Play and Non-play Tutoring in Preschool Children: Is it Play or Tutoring Which Matters". British Journal of Educational Psychology 48 (1978), pp. 315-325.

Thorndyke, P. "Cognitive Structures in Comprehension and Memory of Narrative Discourse". Cognitive Psychology 9 (1977), pp. 77-110.

Toronto Board of Education. Final Report of the Work Group on the Performing Arts. Toronto: Toronto Board of Education, March 1982.

Vygotsky, L. "Play and its Role in the Mental Development of the Child". In Play, edited by J. Bruner, A. Jolly, and K. Sylva. Harmondsworth: Penguin Books, 1976.

Wechsler, D. Wechsler Intelligence Scale for Children-Revised: Manual. New York: Psychological Corporation, 1974.

Weikart, D.; Bond, J.; and McNeil, J. "The Ypsilanti Perry Preschool Project: Preschool Years and Longitudinal Results Through Fourth Grade". Monographs of the High/Score Educational Research Foundation, no. 3 (1978).

Weinberg, W.; Dietz, S.; Penick, E.; and McAlister, W. "Intelligence, Reading Achievement, Physical Size, and Social Class". Journal of Pediatrics 85 (1974), pp. 482-489.

Winer, B. J. Statistical Principles in Experimental Design. Rev. ed. New York: McGraw-Hill, 1971.

Williams, F. Language and Poverty. Chicago: Rand McNally, 1970.

Young, R. The Acquisition and Use of Knowledge About the Story Schema. Doctoral dissertation, McMaster University, 1983.

Zigler, E.; Abelson, W.; and Seitz, V.: "Motivational Factors in the Performance of Economically Disadvantaged Children on the Peabody Picture Vocabulary Test". Child Development 44 (1973), pp. 294-303.

Zigler, E.; Abelson, W.; Trickett, P.; and Seitz, V. "Is an Intervention Program Necessary in Order to Improve Economically Disadvantaged Children's IQ Scores?" Child Development 53 (1982), pp. 340-348.

APPENDIX A

CHILDREN'S BOOKS USED IN NARRATIVE AND DRAMA RESEARCH STUDY

Aardema, V., retold by. Why Mosquitoes Buzz in People's Ears. Toronto: Scholastic Book Services (The Dial Press), 1975.

Allard, H., and Marshall, J. Miss Nelson is Missing. Toronto: Scholastic Book Services (Houghton Mifflin), 1977.

Allard, H., and Marshall, J. The Stupids Step Out. Boston: Houghton Mifflin, 1974.

Ambrus, V. G., author and illustrator. The Seven Skinny Goats. Toronto: Oxford University Press, 1979.

Andersen, H. C. The Emperor's New Clothes. Retold by R.B. Gross. Toronto: Scholastic Book Services, 1977.

Ambrus, V. The Sultan's Bath. London: Oxford University Press, 1971.

Arno, E., illustrator. The Gingerbread Man. Toronto: Ashton Scholastic, 1980.

Arno, E., illustrator. The Gingerbread Man. Big Book edition. Toronto: Ashton Scholastic, 1980.

Aruego, J., and Aruego, A. A Crocodile's Tale. (A Philippine folk story.) Toronto: Scholastic Book Services, 1972.

Blair. S., illustrator. The Three Billy-Goats Gruff. (Norwegian folk tale.) Toronto: Scholastic Book Services, n.d.

Blair, S., illustrator. The Three Billy-Goats Gruff. (Norwegian folk tale.) Big Book edition. Toronto: Ashton Scholastic, 1981.

Blackburn, C., and Handy, L. The Thing From Somewhere. Toronto: Ashton Scholastic, 1981.

Blackburn C., and Handy, L. The Thing From Somewhere. Big Book edition. Auckland: Ashton Scholastic, 1981.

Bemelmans, L. Madeline. Markham, Ont.: Penguin Books, 1981.

Bonne, R. (words), and Mills, A. (music). I Know an Old Lady. Toronto: Scholastic Book Services, 1961.

Bright, R. Georgie. Toronto: Scholastic Book Services, 1944.

Brown, M.W. Goodnight Moon. New York: Harper and Row, 1975.

Brown, M.W. The Runaway Bunny. Rev. ed. New York: Harper and Row, 1972.

Burton. V.L. Choo Choo The Runaway Engine. Toronto: Scholastic Book Services, 1965.

Burton, V. L. Katy and the Big Snow. Boston: Houghton Mifflin Books, 1971.

Burton, V. L. The Little House. Boston: Houghton Mifflin, 1942.

Burton, V. L. Mike Mulligan and His Steam Shovel. Boston: Houghton Mifflin, 1967.

Carle, E. The Very Hungry Caterpillar. Toronto: Scholastic Book Services, n.d.

Cauley. L. B., retold and illustrated by. Goldilocks and the Three Bears. New York: G.P. Putnam's Sons, 1981.

Chance, E. B. Just in Time for the King's Birthday. Toronto: Scholastic Book Services, 1970.

Chance, E. B. Just in Time for the King's Birthday. Big Book edition. Toronto: Ashton Scholastic, 1970.

Chorao, K. Molly's Lies. New York: The Seabury Press, 1979.

Carle, E. The Secret Birthday Message. New York: Crowell, 1971.

de Paolo, T., retold and illustrated by. Strega Nona. Toronto: Prentice-Hall, 1975.

de Paolo, T. Watch Out for the Chicken Feet in Your Soup. Englewood Cliffs, N.J.: Prentice-Hall, 1974.

Eastman, P. D. Are You My Mother? Toronto: Random House, 1960.

Emberley, B., and Emberley, E., adapted and illustrated by. Drummer Hoff. Englewood Cliffs, N.J.: Prentice-Hall, 1967.

Flack, M., and Wiese, K. The Story About Ping. Harmondsworth: Puffin Books, 1977.

Fatio, L. The Happy Lioness. New York: McGraw-Hill, 1980.

Freeman, D. Corduroy. Harmondsworth: Puffin Books, 1982.

Freeman, D. Dandelion. Harmondsworth: Puffin Books, 1981.

Gag, W. Millions of Cats. New York: Coward, McCann and Geoghegan, 1977.

Galdone, P., illustrator. The Amazing Pig. New York: Clarion Books, 1982.

Galdone, P., retold and illustrated by. Cinderella. New York: McGraw-Hill, 1978.

Galdone, P. Hansel and Gretel. Adapted from Grimm. New York: McGraw-Hill, 1982.

Galdone, P., retold and illustrated by. Henny Penny. Toronto: Scholastic Book Services, 1968.

Galdone, P., retold and illustrated by. Jack and the Beanstalk. Adapted from The History of Mother Twaddle and the Marvellous Achievements of her Son Jack. New York: Houghton Mifflin, 1974.

Galdone, P., retold and illustrated by. The Little Red Hen. Toronto: McGraw-Hill, 1973.

Galdone, P. Little Red Riding Hood. Adapted from Grimm. Toronto: McGraw-Hill, 1974.

Galdone, P., illustrator. Little Tuppen. New York: Houghton Mifflin, 1967.

Galdone, P., illustrator. The Magic Porridge Pot. New York: Houghton Mifflin, 1976.

Galdone, P., illustrator. The Monster and the Tailor. New York: Clarion Books, 1982.

Galdone, P., illustrator. The Old Woman and Her Pig. (Folk tale). Toronto: McGraw-Hill, 1960.

Galdone, P., illustrator. The Three Billy Goats Gruff. New York: Houghton Mifflin Co., 1973.

Galdone, P., illustrator. The Three Little Pigs. Toronto: Scholastic Book Services, 1970.

Galdone, P., illustrator. What's in Fox's Sack? New York: Clarion Books, 1982.

Garelick, M. What's Inside? Toronto: Scholastic Book Services, 1955.

Graham, M. B. Benjy's Dog House. Toronto: Scholastic Book Services, 1973.

Gross, R. B. The Bremen-town Musicians. Adapted from Grimm. Toronto: Scholastic Book Services, 1974.

Isadora, R. Ben's Trumpet. New York: Greenwillow, 1979.

Ivimey, J. W. The Adventures of the Three Blind Mice. Toronto: Scholastic Book Services, 1965.

Jacobs, J. The Three Sillies. Retold by P. Galdone. New York: Clarion Books, 1981.

Joerns, C. Oliver's Escape. New York: Four Winds Press, 1981.

Kraus, R. Leo the Late Bloomer. New York: Windmill Books, 1971.

Keats, E. J. Louie. Toronto: Scholastic Book Services, 1975.

Keats, E.J. Louie's Search. New York: Four Winds Press (Scholastic Magazines Inc.), 1980.

Keats, E. J. The Snowy Day. Markham, Ont.: Puffin Books, 1981.

Keats, E. J. The Trip. Toronto: Scholastic Book Services, 1978.

Krauss, R., and Johnson, C. The Carrot Seed. Toronto: Scholastic Book Services, 1945.

Kraus, R., and Johnson, C. The Happy Egg. Toronto: Scholastic Book Services, 1967.

Langstaff, J., retold by. Frog Went A-Courtin'. Toronto: Scholastic Book Services, 1955.

Leaf, M. The Story of Ferdinand. Markham, Ont.: Puffin Books, 1982.

Lee, D. Alligator Pie. Toronto: Macmillan, 1974.

Lionni, L. Frederick. Toronto: Pinwheel, 1973.

Lionni, L. Swimmy. Toronto: Pinwheel, 1973.

Littledale, F., retold by. The Elves and the Shoemaker. Toronto: Scholastic Book Services, 1975.

Littledale, F., retold by. The Magic Fish: The Fisherman and His Wife. Toronto: Scholastic Book Services, 1967.

Littledale F., retold by. The Magic Fish: The Fisherman and His Wife. Big Book edition. Toronto: Ashton Scholastic, 1980.

Littledale, F., retold by. Snow White and the Seven Dwarfs. New York: Four Winds Press, 1980.

Lobel, A. Frog and Toad Are Friends. Toronto: Scholastic Book Services, 1970.

Mayer, M. Terrible Troll. New York: Dial Press, 1968.

Mayer, M. There's A Nightmare in my Closet. New York: The Dial Press, 1968.

Mosel, A., retold by. Tikki Tikki Tembo. Toronto: Scholastic Book Services, 1968.

Munsch, R.N. Jonathan Cleaned Up - Then He Heard a Sound, or Blackberry Subway Jam. Toronto: Annick Press, 1981.

Munsch, R. N. The Paper Bag Princess. Toronto: Annick Press, 1980.

McCloskey, R. Blueberries for Sal. Markham, Ont.: Puffin Books, 1982.

McCloskey, R. Make Way for Ducklings. Markham, Ont.: Puffin Books, 1976.

McGovern, A. Stone Soup. Toronto: Scholastic Book Services, 1968.

Palmer, H. Why I Built the Boogle House. Toronto: Random House, 1964.

Piper, W., retold by. The Little Engine That Could. Toronto: Scholastic Book Services, 1961.

Reece, J. H. Lester and Clyde. Auckland: Ashton Scholastic Ltd., 1981.

Reece, J. H. Lester and Clyde. Big Book edition. Sydney: Ashton Scholastic, 1976.

Rey, H. A. Curious George. Toronto: Scholastic Book Services, 1941.

Rey, H. A. See the Circus. Houghton Mifflin, n.d.

Scott, A. H. Sam. Toronto: McGraw-Hill, 1967.

Sendak, M. Where The Wild Things Are. Toronto: Scholastic Book Services, 1963.

Slobodkina, E. Caps For Sale. A Tale of a Peddler, Some Monkeys and Their Monkey Business. Toronto: Scholastic Book Services, 1968.

Sutton, E. My Cat Likes to Hide in Boxes. Markham, Ont.: Puffin Books, 1978.

Tarcov, E. H. Rumpelstiltskin. Retold from Grimm. Toronto: Scholastic, 1973.

Ungerer, T. Crictor. Toronto: Scholastic Book Services, 1958.

Ungerer, T. The Three Robbers. New York: Atheneum, 1962.

Viorst, J. Alexander and the Terrible, Horrible, No Good, Very Bad Day. New York: Atheneum, 1972.

Waber, B. The House on East 88th Street. Boston: Houghton Mifflin, 1962.

Waber, B. Ira Sleeps Over. Toronto: Scholastic Book Services, 1972.

Wagner, J. John Brown, Rose and the Midnight Cat. Harmondsworth: Puffin Books, 1979.

Wildsmith, B. The Hare and the Tortoise. (Based on the fable by Lafontaine.) Toronto: Oxford University Press, 1982.

Wildsmith, B. The Rich Man and the Shoe-maker. Toronto: Oxford University Press, 1965.

Wright, B., illustrator. The Real Mother Goose. Chicago: Rand McNally, 1982.

Zion, G. Harry the Dirty Dog. New York: Harper and Row, 1956.

APPENDIX B

TRANSCRIPTION AND SCORING MANUAL

I. Transcriptions

A. End of interaction

The interaction is terminated when

(a) A speaker says he/she has finished and/or wants to do something else, OR

(b) A speaker finishes talking about the story and begins to talk about something else.

B. Transcriptions

The conventions listed below should be followed when transcribing a tape.

1. Filled pauses (i.e., um; um, er) are deleted unless a rising intonation indicates the sound used to question a previous utterance. E.g., [illegible], [illegible], [illegible]. He gets in. Uh??

2. False starts, as determined by the words "I mean" or "no", pausal cues and/or "and" at the end of an utterance, are deleted. E.g., [illegible], [illegible], [illegible], the man goes; the man goes [illegible].

3. Exact word and utterance repetitions are included unless they are a form of stuttering and serve no emphatic purpose. E.g., Look at me! The man [illegible], goes.

4. Routines including songs, nursery rhymes, nonsense counting, reciting the alphabet or days of the week are not deleted.

5. Sound effects (e.g., beep-beep, boom-boom) are not deleted.

6. Exclamations (e.g., wowee, ah ha), yes/no utterances and their synonyms (e.g., okay, all right), greetings (e.g., hi, goodbye), attentionals (e.g., Hey! Lookit!) and imperatives (e.g., Look!) are included.

7. Blank spaces are used to indicate unintelligible word(s).

8. Single parentheses are used to indicate doubtful transcriptions. E.g., He (push) the turtle.

9. Overregularizations and neologisms are transcribed as spoken. E.g., He comes to the park. He shumped the turtle.

C. Utterance Boundaries

Utterance boundaries are determined by listening to the tape recordings. An utterance is what sounds like an utterance to a native English speaking transcriber who uses rising and falling intonation patterns characteristic of the language to assess the boundaries. Punctuation, including periods, question marks and exclamations, is based on the same intonation cues as well as the contextual information. Run-on sentences are divided by the rules of English grammar. E.g., The frog is in the jar/and he goes to sleep/ and the frog climbs out.

D. Unspecified Referents and Non-verbal

1. When the experimenter or listener asks the child to clarify a referent and the child responds with a single word rather than a complete utterance, the implied utterance is supplied in double parentheses. E.g., He drank it.

   The frog. ((drank it.))

2. When the experimenter asks the child to clarify a referent and the child points to the referent, the experimenter will supply the label. Words supplied in that manner are enclosed in double parentheses in the transcriptions. E.g., He drank the bottle.

   ((The frog - child pointed.))

3. When the child uses gestures to communicate to the experimenter or listener, the experimenter or listener labels the gesture performed. Such gestural labelling is indicated in the transcripts by the use of double parentheses. E.g., ((Child points finger just as boy in story points finger.))

4. When the child gives yes or no answers to the experimenter or listener, the implied utterance is supplied in double parentheses. E.g., No ((It was not the turtle.))

II. Scoring of Transcripts

A. Response Class Scoring

Each statement is broken into simple sentences. The simple sentences are then assigned to one of three response types: core statements, extra statements and spurious statements.

1. The core statements are determined from the results of the adult sample. Each statement given in response to a picture by more that fifty per cent of the adults is designated as a core statement.

2. Statements that are correct descriptions of a picture but that were not given by at least fifty per cent of the adult sample are classified as extra statements. Extra statements include inessential detail.

3. Wrong responses are designated as spurious statements. These statements included possible but far-fetched interpretations of a picture from the standpoint of an adult as well as false responses.

4. The conventions listed below should be followed when classifying response classes:

(i) When a child clarifies a referent used in an earlier statement (see I, D, 1) OR when a child points to a referent (see I, D, 2) only the earlier statement is scored. This clarification is not scored.

(ii) When a child communicated by gestures as described in I, D, 3, the communication is scored.

(iii) When a child gives a yes/no answer as described in I, D, 4, the response is not scored.

(iv) Repetitions requested by the experimenter or listener (e.g., Pardon me?) are not scored.

(v) When a child says "I don't know", "I don't remember", or words to that effect, the response is not scored.

B. Story Statements and Narrative Conventions

(i) Story statements cannot be derived from any one picture, but rather depend on an understanding of the story. Only a few pictures in a story are likely to elicit story statements. Story statements are categorized as either core, extra, or spurious responses.

(ii) Certain narrative conventions are scored. Narrative conventions are not responses to the picture itself nor do they necessarily indicate an understanding of the story. The use of narrative conventions indicates a familiarity with the conventions of storytelling. The following conventions are scored:

(a) Conventions concerning settings. E.g., "Once upon a time...," "One day...".

(b) Conventions concerning resolutions. E.g., "And lived there from then on", "And they lived happily ever after", "And they never fought again."

(c) Conventions concerning temporal connections including "and", "when", "again", "finally", "suddenly", "meanwhile", "and then", etc.